

**ALTERNATIVE DETECTOR CONFIGURATION AND MODE OF  
OPERATION OF A TIME DELAY INTEGRATION PARTICLE  
ANALYZER**

**Abstract of the Disclosure**

5           Light from an object moving through an imaging system is collected,  
dispersed, and imaged onto a time delay integration (TDI) detector that is inclined  
relative to an axis of motion of the object, producing a pixilated output signal. In  
one embodiment, the movement of the image object over the TDI detector is  
asynchronous with the movement of the output signal producing an output signal  
10   that is a composite of the image of the object at varying focal point along the focal  
plane. In another embodiment, light from the object is periodically incident on  
the inclined TDI detector, producing a plurality of spaced apart images and  
corresponding output signals that propagate across the TDI detector. The inclined  
plane enables images of FISH probes or other components within an object to be  
15   produced at different focal points, so that the 3D spatial relationship between the  
FISH probes or components can be resolved.